

## Improved Trace Video Filtering Using Wavelet De-noising Techniques

### ABSTRACT

5           A filter that includes an analyzer, thresholding circuit, and synthesizer. The analyzer  
generates a low-frequency component signal and a high-frequency component signal from an  
input signal. The thresholding circuit generates a processed high-frequency signal from the  
high-frequency component signal, the processed high-frequency signal having an amplitude  
of zero in those regions in which the high-frequency component signal has an amplitude that  
10 is less than a threshold value. The synthesizer generates a filtered signal from input signals  
that include the low-frequency component signal and the processed high-frequency signal.  
The filtered signal is identical to the input signal if the threshold value is zero. The analyzer  
is preferably constructed from a plurality of finite impulse response filters that operate on a  
small fraction of the input signal at a time.